

Notice of Allowability

Application No.

09/891,504

Examiner

Jennifer T Nguyen

Applicant(s)

SON, HYEON HO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 08/02/04.
2. ☒ The allowed claim(s) is/are 1-4 and 7-13.
3. ☒ The drawings filed on 27 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. **REASONS FOR ALLOWANCE:**

Claims 1-4 and 7-13 are allowable because:

Regarding claims 1 and 7, referring to Fig. 6, Iba et al. (Patent No. US 6,456,266) teaches a method for driving a liquid crystal of a thin film transistor liquid crystal display, the method comprising: in a real one frame for driving the liquid crystal includes applying a first voltage (i.e., gate-on signal having a pulse width T1) during a data voltage applying frame (Fa); and applying a second voltage (i.e., 0%-luminance signal having a pulse T2) during second period (Fb) (col. 9, lines 18-37 and col. 10, lines 16-37). Iba does not specifically teaches applying a second voltage for maintaining a bend state and preventing the liquid crystal from restoring to a splay state during a maintenance voltage applying frame. None of the prior art made of record neither anticipates nor suggests all of the features recited in the independent claims 1 and 7. The improvement comprises the real one frame for driving the liquid crystal includes the data voltage applying frame and the maintenance voltage applying frame, for maintaining a bend state and preventing the liquid crystal from restoring to a splay state during a maintenance voltage applying frame, subsequent to the data voltage applying frame, and the data voltage applying frame is a data applying time and the maintenance voltage applying frame is a maintenance time, and the data voltage applying frame and the maintenance voltage applying frame are determined by a period of a signal applying to a gate of the liquid crystal display.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

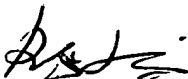
Iba et al. (Patent No.: US 6,456,266) teaches liquid crystal apparatus.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T Nguyen whose telephone number is 703-305-3225. The examiner can normally be reached on Mon-Fri: 9:00am-5: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edouard Patrick can be reached on 703-308-6725. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JNguyen
02/18/2005


REGINA LIANG
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative Mornin, Jr. on 02/18/2005.

The application has been amended as follows:

Claim 2 (Presently Amended): The method according to claim 2 1, wherein the first voltage, the second voltage, the data voltage applying frame, the maintenance voltage applying frame, and the real one frame satisfy the following equation: $(\text{the first voltage} \times \text{the data voltage applying frame} + \text{the second voltage} \times \text{the maintenance voltage applying frame}) / \text{the real one frame} \geq \text{a threshold voltage}$, wherein the threshold voltage is a minimum voltage for the liquid crystal to transit to the bend state from the splay state.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T Nguyen whose telephone number is 703-305-3225.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edouard Patrick can be reached on 703-308-6725. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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